ABSTRACT

To a neutral point of a motor (14) is connected a positive electrode of an auxiliary battery (18) and an auxiliary load (20). Voltage on a power supply line to the auxiliary load (20), a neutral point voltage, is detected, and disconnection of the auxiliary battery (18) is determined when an increase of ripples in the neutral point voltage is detected. When a voltmeter cannot be used, control of the neutral point voltage is continued by measuring current of the auxiliary battery and performing control such that the current value becomes 0. A resolver is further provided on the motor (14) for detecting the rotor angle with high accuracy. A control circuit generates, in accordance with an output of the resolver, a voltage control signal for each phase current having the same amplitude as the carrier amplitude during startup, and compares the voltage control signal to carrier to obtain a gate signal having the same frequency as the carrier frequency. In switching of the inverter (12), due to this gate signal, periods in which all phases are on or off are reduced, thereby preventing a large neutral point current.